FQPA Science Review Board Members Biographies for July 29- July 31, 2014
Meeting of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Scientific Advisory Panel (SAP) on New High Throughput Methods to Estimate Chemical Exposure
Docket Number: EPA-HQ-OPP-2014-0331

James Chen, Ph.D.

Dr. Chen is Senior Biomedical Research Service/Supervisory Mathematical Statistician in the Division of Bioinformatics and Biostatistics, National Center for Toxicological Research, U. S. Food and Drug Administration. Dr. Chen received a Ph.D. degree in Statistics from Iowa State University. He is an Adjunct Professor in the Department of Biostatistics, University of Arkansas for Medical Science. Dr. Chen is an associate editor and member of editorial board in several statistical and bioinformatic journals. Dr. Chen has over 200 scientific publications in peer-reviewed journals and numerous invited subject review articles. Dr. Chen has served on the FDA, EPA, and interagency committees and workshops that directed at developing scientific and regulatory issues and guidelines, and has provided consultations to FDA and EPA scientists on the statistical analysis of toxicological data and on risk assessment procedures. His primary research interests are data mining techniques, non-clinical statistics, and statistical modeling for quantitative risk assessment. He is an elected Fellow of the American Statistical Association (1996).

Mark Cronin, Ph.D.

Dr. Mark Cronin is Professor of Predictive Toxicology at the School of Pharmacy and Chemistry, Liverpool John Moores University (LJMU), Liverpool, England. At LJMU Mark Cronin currently leads research into the area of quantitative structure-activity relationships (QSARs) with a particular emphasis towards predicting the toxicity of chemicals; his research group consists of six post-doctoral fellows and three PhD students. Mark received his Ph.D. from Liverpool Polytechnic (1991) in the area of QSARs for environmental toxicity; the was followed by three years of post-doctoral research in the application of QSAR to human health effects. Since 1994 Mark has been a full-time member of the teaching staff at LJMU (equivalent to full tenure in the USA) and received his professorship (equivalent to full professor in the USA) in 2004.
Mark Cronin has over 20 years expertise in the application of quantitative structure-activity relationships (QSARs) to predict the toxicity and fate of chemicals; in addition to development of strategies (such as integrated testing strategies) to develop alternatives to whole animal testing for toxicity. The alternatives include the whole range of in silico techniques (use of existing data; (Q)SARs; expert systems), data from chemical reactivity (in chemico) assays; and data from in vitro techniques. Research in recent years has centred on the application of these alternatives for regulatory use (e.g. classification and labelling; prioritisation; data gap filling) and for product development. Endpoints currently considered cover all toxicological effects required for regulatory risk assessment including endocrine disruption.

This research effort has resulted in over 150 publications in all areas of the use of (Q)SARs and expert systems to predict toxicity, including one book and a further two books in press. Mark has spoken widely on various aspects of predictive toxicology in scientific conferences, symposia as well as invited lectures in industries, regulatory agencies etc. He has received grant funding and performed consultancies from diverse sources including UK research councils, UK government agencies (e.g. Department for Environment, Food and Rural Affairs, Defra), European Union (various framework programs), the European Commission as well as chemical and personal product industries. During the last decade, Mark has served on a number of national and international committees. These relate mainly to the promotion of predictive toxicology and reduction of animal testing as well as work with Learned Societies and include being a member of the Organisation of Economic Co-operation and Development (OECD) Working Group on (Q)SARs, representing the International Council for Animal Protection in OECD (ICAPO). He has also worked on various committees including the European ECVAM Task Force on Endocrine Disruption and a member of various ECVAM and European Chemicals Bureau (ECB) Workshops. Mark is a member of the International Steering Committee for the International Workshop on QSAR in the Environmental Sciences as well as committees at the Society of Chemical Industry (London) and SETAC-UK. He is on the editorial board of five journals.

William Hayton, Ph.D.

Dr. William L. Hayton is an Emeritus Professor of Pharmacy in the Division of Pharmaceutics at The Ohio State University, where he also served as the Associate Dean for Graduate Studies and Research until July, 2010. His formal training includes the BS in Pharmacy degree (1967, University of Washington, Seattle, and the PhD degree in Pharmaceutics (1971, State University of New York at Buffalo). Dr. Hayton's expertise is pharmacokinetics, particularly construction and validation of mathematical models that describe or explain the kinetics of complex biological systems. Dr. Hayton taught Clinical Pharmacokinetics to Pharm.D. students (60 hours per year) and PK/PD Modeling to Ph.D. students (15 hours). One recent research interest was characterization of the Fc receptor-mediated transport and catabolism of albumin and IgG in wild type and FcR knockout mice. A second project is the quantitative modeling of the female hypothalamus-pituitary-gonad (HPG) axis in the female rainbow trout (*Oncorhynchus mykiss*). The model is based on and integrates the biology of gonadotropin, estrogen, androgen and maturational hormone signaling systems, and it includes key intermediate steps in the signaling pathways; *viz*., gonadotropin and sex steroid synthesis, hormone receptors and their corresponding mRNA levels. Dr. Hayton's expertise extends to interspecies scaling of pharmacokinetic model parameter values and xenobiotic metabolism. Dr. Hayton was a member of the Washington State University College of Pharmacy faculty for 19 years before coming to Ohio State in 1990 as Chair of the Division of Pharmaceutics. Dr. Hayton is author or co-author of more than 100 peer-reviewed scientific publications, many of which report on the pharmacokinetics of xenobiotics. He served on the EPA Science Advisory Board Perfluorooctanoic Acid Risk Assessment Review Panel (2005), as a peer reviewer of EPA's document "Harmonization in Interspecies Extrapolation: Use of BW3/4 as Default Method in Derivation of the Oral

RfD" (2006), and as a member of FIFRA's Scientific Advisory Panel to consider "Assessing Approaches for the Development of PBPK Models of Pyrethroid Pesticides" (2007), "Draft Framework and Case Studies on Atrazine, Human Incidents, and the Agricultural Health Study: Incorporation of Epidemiology and Human Incident Data into Human Health Risk Assessment," (2010), and "Reevaluation of the Human Health Effects of Atrazine: Review of Experimental Animal and In Vitro Studies and Drinking Water Monitoring Frequency," (2010). He has held peer-reviewed grant support from the NIH, EPA, AFOSR, FDA, and USFWS. He recently served as principal investigator for an NSF research grant "Modeling the Salmonid Hypothalamus-Pituitary-Gonad Axis," 6/15/06 to 5/31/11, and he served as co-investigator on an NIH grant: "Preclinical Pharmacological Study of Antitumor and Other Therapeutic Agents," K.K. Chan (PI), 12/01/04 to 11/30/11.

Panos Georgopoulos, Ph.D.

Dr. Panos Georgopoulos is a professor in the Department of Environmental and Occupational Medicine at Rutgers University – Robert Wood Johnson Medical School. He is also a member of the Graduate Faculties of Chemical and Biochemical Engineering, Biomedical Engineering, and of Environmental Sciences at Rutgers, and a member of the Environmental and Occupational Health Sciences Institute (EOHSI). Prof. Georgopoulos received his M.S. and Ph.D. Degrees in Chemical Engineering from the California Institute of Technology (Caltech) and his Dipl. Ing. Degree from the National Technical University of Athens. At EOHSI he directs the Computational Chemodynamics Laboratory (ccl.rutgers.edu), the State-funded Ozone Research Center (ORC), and the Informatics and Computational Toxicology Core of the NIEHS-funded Center for Environmental Exposures and Disease (CEED). Prof. Georgopoulos' research over the past 30 years has involved the development and application of computational methods that combine multiattribute pattern analysis of large data sets with multiscale modeling of physicochemical processes taking place in interacting environmental and biological systems. The overall aim of this research is to improve the mechanistic understanding and quantification of exposure, dosimetry, toxicokinetics, and biological response (toxicodynamics) to xenobiotics at the cellular, tissue/organ, whole body, and population levels. Prof. Georgopoulos has served on national and international scientific panels and committees and has lectured as invited speaker at various US and European universities; he has published over 140 peer-reviewed articles and chapters in scientific journals, books and conference proceedings.

William Hayton, Ph.D.

Dr. William L. Hayton is an Emeritus Professor of Pharmacy in the Division of Pharmaceutics at The Ohio State University, where he also served as the Associate Dean for Graduate Studies and Research until July, 2010. His formal training includes the BS in Pharmacy degree (1967, University of Washington, Seattle, and the PhD degree in Pharmaceutics (1971, State University of New York at Buffalo). Dr. Hayton's expertise is pharmacokinetics, particularly construction and validation of mathematical models that describe or explain the kinetics of complex biological systems. Dr. Hayton taught

Clinical Pharmacokinetics to Pharm.D. students (60 hours per year) and PK/PD Modeling to Ph.D. students (15 hours). One recent research interest was characterization of the Fc receptor-mediated transport and catabolism of albumin and IgG in wild type and FcR knockout mice. A second project is the quantitative modeling of the female hypothalamus-pituitary-gonad (HPG) axis in the female rainbow trout (*Oncorhynchus mykiss*). The model is based on and integrates the biology of gonadotropin, estrogen, androgen and maturational hormone signaling systems, and it includes key intermediate steps in the signaling pathways; *viz*., gonadotropin and sex steroid synthesis, hormone receptors and their corresponding mRNA levels. Dr. Hayton's expertise extends to interspecies scaling of pharmacokinetic model parameter values and xenobiotic metabolism. Dr. Hayton was a member of the Washington State University College of Pharmacy faculty for 19 years before coming to Ohio State in 1990 as Chair of the Division of Pharmaceutics. Dr. Hayton is author or co-author of more than 100 peer-reviewed scientific publications, many of which report on the pharmacokinetics of xenobiotics. He served on the EPA Science Advisory Board Perfluorooctanoic Acid Risk Assessment Review Panel (2005), as a peer reviewer of EPA's document "Harmonization in Interspecies Extrapolation: Use of BW3/4 as Default Method in Derivation of the Oral RfD" (2006), and as a member of FIFRA's Scientific Advisory Panel to consider "Assessing Approaches for the Development of PBPK Models of Pyrethroid Pesticides" (2007), "Draft Framework and Case Studies on Atrazine, Human Incidents, and the Agricultural Health Study: Incorporation of Epidemiology and Human Incident Data into Human Health Risk Assessment," (2010), and "Reevaluation of the Human Health Effects of Atrazine: Review of Experimental Animal and In Vitro Studies and Drinking Water Monitoring Frequency," (2010). He has held peer-reviewed grant support from the NIH, EPA, AFOSR, FDA, and USFWS. He recently served as principal investigator for an NSF research grant "Modeling the Salmonid Hypothalamus-Pituitary-Gonad Axis,", and he served as co-investigator on an NIH grant: "Preclinical Pharmacological Study of Antitumor and Other Therapeutic Agents".

Peter Macdonald, D.Phil., P.Stat

Dr. Peter Macdonald completed his D.Phil. in Biomathematics at the University of Oxford and joined McMaster University in 1971. He has taught statistics at all levels, supervised graduate students and consulted in applied statistics. He holds P.Stat. accreditation from the Statistical Society of Canada. He retired from McMaster in 2010 with the title Professor Emeritus of Mathematics & Statistics and has continued to teach statistics courses at the advanced level, and to supervise graduate students. For much of his time at McMaster he was Coordinator of the Graduate Program in Statistics. Sabbatical positions included l'Institut National de la Santé et de la Recherche Médicale in Villejuif, France, in 1977–78 and La Trobe University, Bundoora, Australia, in 1986. He was President of the Statistical Society of Canada in 1990–91. His main areas of research include stochastic models for cell proliferation, mark–recapture methods, mixture distributions, fisheries length–frequency analysis, and the reconstruction of ancient Safaitic genealogies. His current work is concerned with developing an R package for fitting finite mixture distributions and helping scientists in diverse areas of application to use it. He has

served as an ad hoc member of numerous FIFRA Scientific Advisory Panels for the US EPA since 2000.

Cheryl Murphy, Ph.D.

Dr. Cheryl Murphy is an associate professor at Michigan State University, jointly appointed to the Department of Fisheries and Wildlife and Lyman Briggs College. She is also an affiliate of the Center for Integrative Toxicology, Environmental Science and Public Policy, Ecology and Evolutionary Biology and Behavior all at MSU. Cheryl is on the Council of Fellows for the Cooperative Institute for Limnology and Ecosystem Research, Ann Arbor, MI and on the editorial board for the Journal "Ecotoxicology". Cheryl has a Ph.D. from the Department of Oceanography and Coastal Sciences, Louisiana State University, in ecological modeling. Specifically, her research was focused on using computational models to scale the sublethal effects of contaminants to population effects. Currently, Cheryl explores how information translates across different scales. Using fish as a model organism, she strives to synthesize information collected on individuals and use this information to answer questions at a higher level of organization. For example, how do changes in the physiological processes occurring within an individual translate to behavioral changes and ecologically relevant endpoints, how do short term phenotypic changes in life history traits alter long term genetic change, and how do anthropogenic influences such as contaminants impact such relationships and affect populations or communities of fish? Her research falls into three main themes: 1) Scaling sublethal effects of stressors to population and community level effects, 2) Life history variation and physiological processes, implications of stress and 3) Effects of multiple stressors on individual fish, populations and communities. Cheryl is well-versed in various subjects (reproductive physiology, behavior, ecology, toxicology, modeling) and can provide links between the different disciplines. Her overall goal is to bridge laboratory work with field sampling and modeling to address issues in environmental toxicology.

Thomas Potter, Ph.D.

Dr. Potter is a research chemist at the USDA-Agricultural Research Service Southeast Watershed Research Laboratory. From the past 15 years he has lead a multidisciplinary group of scientists in investigations of land management and agronomic practices on fate and transport of pesticides at field, farm and watershed scales. His more than 32 years experience as a research scientist, teacher and consultant includes authorship of 75 peer-review journal publications, 13 Book chapters, 9 government reports, and 2 books and service on scientific advisory panels for The USDA-Foreign Agriculture Service, the U.S. Environmental Protection Agency and the US Food and Drug Administration. His technical areas include human and ecological risk assessment,elucidation and simulation of pesticide environmental fate and transport, natural products chemistry, and mass spectrometry.

Daniel Schlenk, Ph.D.

Dr. Daniel Schlenk is Professor of Aquatic Ecotoxicology and Environmental Toxicology at the University of California Riverside. Dr. Schlenk received his PhD in Toxicology from Oregon State University in 1989. He was supported by a National Institute of Environmental Health Science postdoctoral fellowship at Duke University from 1989-1991. From 2007-2014, he was a permanent member of the USEPA FIFRA Science Advisory Panel and was chair from 2012-2014. From 2003-2006, he was a member of the Board of Directors for the North American Society of Environmental Toxicology and Chemistry. He was co-editor-in chief of *Aquatic Toxicology* from 2005-2011, and serves on the editorial boards of *Toxicological Sciences, The Asian Journal of Ecotoxicology* and *Marine Environmental Research*. He has co-edited a 2 volume series entitled "*Target Organ Toxicity in Marine and Freshwater Teleosts*" and has published more than 185 peer reviewed journal articles. He has been a recipient of the Ray Lankester Investigatorship of the Marine Biological Association of the United Kingdom; a visiting Scholar of the Instituto Del Mare, Venice Italy; a visiting Scholar in the Department of Biochemistry, Chinese University of Hong Kong; a Visiting Scientist at the CSIRO Lucas Heights Laboratory, in Sydney Australia, and a Distinguished Fellow of the State Key Laboratory for Marine Environmental Science of Xiamen University, China. He has been an ad hoc member for the USEPA Science Advisory Board for Aquatic Life Criteria Guidelines from the Ecological Processes and Effects Committee, and has participated in proposal review panels for the NSF, USEPA, NOAA, and the National Institute of Environmental Health Sciences. His research interests focus around mechanisms of action of pesticides and emerging compounds in aquatic organisms.